

Q1  
the semiconductor wafer than pits formed on a front or back surface of the semiconductor wafer. Pits formed on a front or back surface of a semiconductor wafer may be formed a depth of at least about 2.5  $\mu\text{m}$  into the material of the semiconductor wafer.--

Please replace the paragraph at line 4, page 13 of the Specification with the following replacement paragraph:

Q2  
--As with the other dimensions, the spacing between pits may vary depending upon the embodiment. According to one embodiment, pits are separated from each other by distance of about 2 millimeters. Typically this is the case for pits formed in an edge of a semiconductor wafer. Pits formed in front or back surface of the semiconductor wafer may be arranged much closer to each other. Along these lines, the pits may be formed separated from adjacent pits by a distance by about 5  $\mu\text{m}$  to about 10  $\mu\text{m}$ . According to one embodiment a distance of at least about 5  $\mu\text{m}$  separates adjacent pits in a line or adjacent lines from each other.--

Please replace the paragraph at line 15, page 30 of the Specification with the following replacement paragraph:

Q3  
--Similar to the characters and the spacing between the characters, the pits making up the characters may be formed in different sizes, shapes, and depth, among other parameters. Typically, the pits are round, have a diameter of about 0.6  $\mu\text{m}$  to about 1.0  $\mu\text{m}$  and a depth of about 25  $\mu\text{m}$  to about 100  $\mu\text{m}$  and are spaced about 0.3  $\mu\text{m}$  to about 0.6  $\mu\text{m}$  from adjacent pits.--

Please replace the two paragraphs starting at line 12, page 32 of the Specification with the following replacement paragraphs:

Q4  
--Fig. 10 provides a close-up partial cross-sectional view through three pits formed on a surface of a semiconductor wafer. The pits 52 formed in semiconductor wafer 50 are each about 50  $\mu\text{m}$  wide.

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The pits illustrated in Fig. 10 are formed to have straight sidewall portions about 5  $\mu\text{m}$  deep. Each pit also includes a rounded bottom portion 68. Forming the pits about 5  $\mu\text{m}$  deep is deep enough to stop subsequent processes from obscuring the pits. Of course, pits may be formed having a depth and diameter as well as having any configuration of sidewalls and bottom surfaces.--

Please replace the paragraph starting at line 1, page 33 of the Specification with the following replacement paragraph:

A5  
--Approximately the top 5  $\mu\text{m}$  54 of semiconductor wafer 50 represent an area where the ion implant has been carried out. According to this embodiment, the ion implant changes the index of refraction of this top of about 0.5  $\mu\text{m}$  on the surface. The change to the index of refraction is illustrated by incident radiation beam 56 and the refraction illustrated by beams 58. The radiation is then reflected by the non-implanted portion of the semiconductor wafer as illustrated by beams 60. Fig. 3 also provides a representation a waveform of the radiation 62.--

Please replace the paragraph starting at line 17, page 33 and ending on line 1, page 34 of the Specification with the following replacement paragraph:

A6  
--As illustrated in Fig. 12, pits may be formed in a semiconductor wafer in groups forming alphanumeric characters. Fig. 12 illustrates two characters. Each character is about 5 mm long by about 2 mm wide. Such characters would be about 50 dots having a length of about 50  $\mu\text{m}$  by about 20 dots having a length of about 50  $\mu\text{m}$ . Such characters would give a resolution of 2500 dots per inch (DPI). Such characters are more than large enough to make the characters readable by the naked eye.--

Please replace the three paragraphs starting at line 1, page 37 of the Specification with the following replacement paragraphs:

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--Fig. 16 represents a close-up cross-sectional view of the group of pits illustrated in Fig. 15 along the line 16 illustrated in Fig. 15. The pits illustrated in Fig. 16 have a width  $W$  of about  $0.4\text{ }\mu\text{m}$  and a depth ( $D$ ) of about  $2\text{ }\mu\text{m}$  and are spaced apart a distance ( $S$ ) of about  $0.75\text{ }\mu\text{m}$ .

While pits according to the embodiment illustrated in Figs. 13-16 may be formed at any depth, typically, the depth is sufficient to ensure that the pits remain readable during subsequent processing as well as to help ensure contrast with any treatment carried out on the backside of the wafer. Typically, the pits are formed at least  $2.5\text{ }\mu\text{m}$  deep into a surface of a semiconductor wafer. In general, the pits may be about  $1.5\text{ }\mu\text{m}$  to about  $3\text{ }\mu\text{m}$  deep.

The spacing between adjacent pits and between adjacent rows of pits may also vary. Along these lines, adjacent pits typically are spaced about  $0.5\text{ }\mu\text{m}$  to about  $1\text{ }\mu\text{m}$  apart. On the other hand, adjacent rows of pits typically are spaced about  $0.5\text{ }\mu\text{m}$  to about  $2.0\text{ }\mu\text{m}$  apart.--

Please replace the paragraph starting at line 3, page 38 of the Specification with the following replacement paragraph:

Q8

--In the embodiment shown in Figs. 13-16, if  $50\text{ }\mu\text{m}$  were required to encode an alphanumeric character, 50 characters could be encoded in a line about 2.5 millimeters. Therefore, the embodiment illustrated in Figs. 13-16 can make it easy to encode wafer serial numbers, substrate type, doping level, manufacture, among other pieces of information. Such data could be encoded in the pits utilizing a laser, ion milling, or mask and etch procedures.--